

What is claimed is:

1. A head stack assembly for a disk drive, the disk drive including a storage disk, the head stack assembly comprising:

- 5           an actuator arm;  
          a coarse positioner that moves the actuator arm relative to the storage disk;  
          a transducer assembly including a load beam, a flexure secured to the load beam, and a data transducer secured to the flexure;  
10          a base plate securing the transducer assembly to the actuator arm;  
          and  
          a fine positioner secured directly to the base plate, the fine positioner moving a portion of the base plate relative to the actuator arm.

15          2. The head stack assembly of claim 1 wherein the base plate further comprises a positioner cavity that receives the fine positioner.

3. The head stack assembly of claim 2 wherein the base plate further comprises a flex section positioned adjacent to the positioner cavity, the flex section allowing the base plate to flex.

20          4. The head stack assembly of claim 1 wherein the base plate includes a pair of spaced apart positioner cavities that receive the fine positioner.

5. The head stack assembly of claim 4 wherein the base plate includes a pair of flex sections that allow the base plate to flex.

25          6. The head stack assembly of claim 5 wherein the positioner cavities are positioned between the flex sections.

7. The head stack assembly of claim 5 wherein the flex sections are positioned between the positioner cavities.

8. The head stack assembly of claim 1 wherein the fine positioner moves the transducer assembly substantially transversely relative to the actuator arm.

9. A disk drive comprising the head stack assembly of claim 1, and a storage disk, the storage disk including a target track.

5 10. The disk drive of claim 9 further comprising a control system that (i) directs current to the coarse positioner to move the actuator arm so that the data transducer is positioned near the target track and (ii) directs current to the fine positioner to move the base plate so that the data transducer is positioned on the target track.

10 11. The disk drive of claim 9 further comprising a control system that (i) directs current to the coarse positioner to move the actuator arm so that the data transducer is on the target track, and (ii) directs current to the fine positioner to selectively move the base plate to maintain the data transducer on the target track.

12. A disk drive comprising:  
15 a storage disk that rotates, the storage disk having a target track;  
an actuator arm;  
a transducer assembly including a load beam, a flexure secured to the load beam, and a data transducer secured to the flexure;  
a base plate securing the load beam to the actuator arm, the base  
20 plate including a positioner cavity;  
a coarse positioner that moves the actuator arm and the data transducer relative to the storage disk; and  
a fine positioner positioned within the positioner cavity, the fine  
positioner being adapted to deflect the base plate and move the data  
25 transducer relative to the storage disk.

13. The disk drive of claim 12 wherein the fine positioner is a piezoelectric motor.

14. The disk drive of claim 12 wherein the fine positioner moves the transducer assembly substantially transversely relative to the actuator arm.

5 15. The disk drive of claim 12 wherein the base plate includes a pair of positioner cavities and a pair of flex sections, the flex sections allowing the base plate to flex.

16. The disk drive of claim 12 further comprising a control system, the control system directing current to the coarse positioner to move the data transducer to near the target track, and the control system further directing current to the fine positioner to move the data transducer from near the target track to the target track.

10 17. The disk drive of claim 12 further comprising a control system, the control system directing current to the coarse positioner to move the data transducer to the target track, and the control system further directing current to the fine positioner to maintain the data transducer on the target track during rotation of the storage disk.

15 18. A method for retrieving data from a target track on a rotating storage disk of a disk drive, the method comprising the steps of:

providing a transducer assembly including a load beam, a flexure secured to the load beam, and a data transducer secured to the flexure;

providing an actuator arm;

20 securing the transducer assembly to the actuator arm with a base plate;

securing a fine positioner to the base plate;

moving the actuator arm relative to the storage disk with a coarse positioner; and

25 adjusting the position of the data transducer relative to the storage disk with the fine positioner so that the data transducer is positioned on the target track during rotation of the storage disk.

19. The method of claim 18 wherein the step of securing the fine positioner includes the step of positioning the fine positioner in a positioner cavity in the base plate.

20. A method for retrieving data from a target track on a rotating storage  
5 disk of a disk drive, the method comprising the steps of:  
providing a transducer assembly including a load beam, a flexure secured to the load beam, and a data transducer secured to the flexure;  
providing an actuator arm;  
securing the transducer assembly to the actuator arm with a base plate;  
10 moving the actuator arm relative to the storage disk with a coarse positioner;  
securing a fine positioner to the base plate; and  
deflecting the base plate with the fine positioner to adjust the position of the data transducer relative to the storage disk.

21. The method of claim 20 wherein the step of securing the fine positioner  
15 includes the step of positioning the fine positioner in a positioner cavity in the base plate.